

Work Order ID 90449

September-18-12 11:22:53 AM

90449

Page 1

Item ID: D4542-2

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Retainer, Inner, RH

Start Date: 18/09/2012 Start Qty: 20.00

20

Cust Item ID:

Required Date: 02/10/2012 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: 12-09-18 Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4542

C

100

0.00

100

Waterjet

Memo

0.00

20 0 Jm 129-21

FLOW CNC Waterjet

1- Cut as per dwg

Prog rev: C

Dwg rev: C

6061-032

2- Deburr

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

20 0 Jm 129-21

Quality Control

PTO ———→

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA

Date:

12/10/03

QA Closed:

Date:

Work Order: <u>90449</u>	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS			
Part No. <u>D4542-2</u>		Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input checked="" type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input checked="" type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>
NCR No. <u>12-1857</u>					

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>	12-9-25	#110	20	we found at inspection that hole to edge should be 0.350 type some are at 0.381 (typ) and edge to edge should be at 1.275 some are at 1.302	DAS 12 12-83 12/9/25	to be check when it will assembly (check) PLACE UNDER POSITIVE RECALL, TEST ASSEMBLY SEVERAL PIECES PER D4545 BEFORE APPROVAL. → TEST FIT ON A/C OK	DAS 12 12-83 12/9/25	SMB 12-9-25	DAS 16 12-83 12/9/25
Equip/Tooling <input checked="" type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input checked="" type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input checked="" type="checkbox"/> Other	<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled
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tip on water jet starting to wear out. adjust at account for.

Work Order ID 90449

September-18-12 11:22:53 AM

90449

Page 2

Item ID: D4542-2

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Retainer, Inner, RH

Start Date: 18/09/2012 Start Qty: 20.00

20

Cust Item ID:

Required Date: 02/10/2012 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC8- Inspect parts - second check

0.00

smb
12.9.05

20

120

QC

Memo

0.00

Quality Control

130

Identify as per dwg & Stock Location: *GA*

0.00

130

Packaging

Memo

0.00

20

SB
12.9.12

Packaging

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

Quality Control

POSITIVE RECALL

EFFECTIVE *12/9/25* AUTH *GP*
RELEASED *GP* DATE *12/9/26*

NEED TEST ASSEMBLY TO

VERIFY PARTS

OK GP 12/9/26

12/9/28

MLJ 12-09-27

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY				
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	

Picklist Print

September-18-12 11:22:57 AM

Page 1

Work Order ID: 90449

90449

Parent Item: D4542-2

D4542-2

Parent Item Name: Retainer, Inner, RH

Start Date: 18/09/2012

Required Date: 02/10/2012

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP revA 12.01.12 New Issue EC verified by:DD IPP REV:B
12.02.24 as per dwg revA DD verf:EC IPP REV:C 12.05.08 as
per dwg revB DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6S.032		Purchased	No				sf	262.4600		17.54316			
									**	18.0			

M6061T6S 032

6061-T6 Sheet 0.032"

Jm 12-9-21

Location

Loc Qty

Loc Code

MAT021

262.46

121099

127.47

122256

40.89

122737

94.1

122737

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

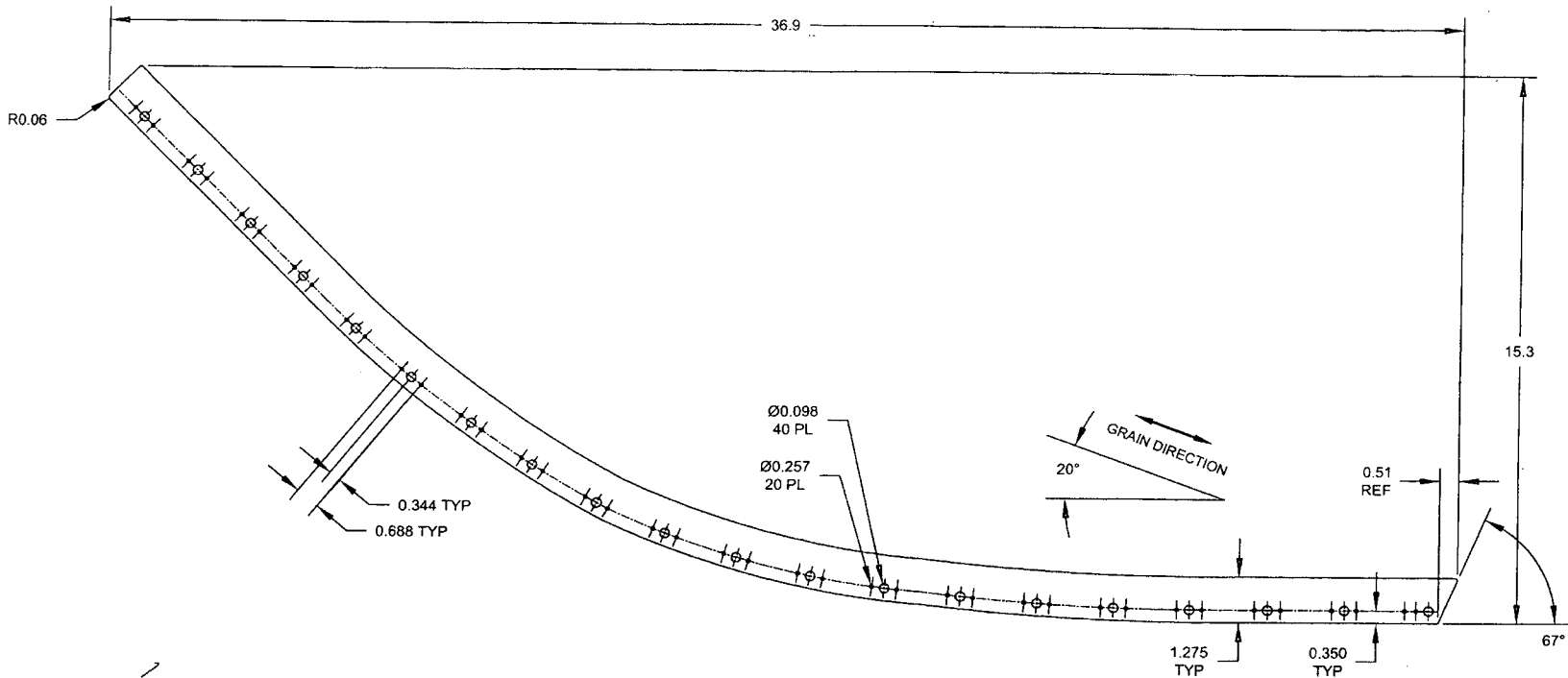
Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY				
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped. <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	

8 7 6 5 4 3 2 1

D
C
B
A

D
C
B
A



D4542-1 RETAINER, LH INNER
(LOWER)

2012-08-03

NOTES:

- 1) MATERIAL: 6061-T6 ALUMINUM SHEET, 0.032 THICK
PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209
REF DART SPEC. M6061T6S.032
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.17 lbs
- 8) PROFILE PER DRAWING FILE "D4542-1-REVC.DXF"



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 90449 M/LJ
12-09-18

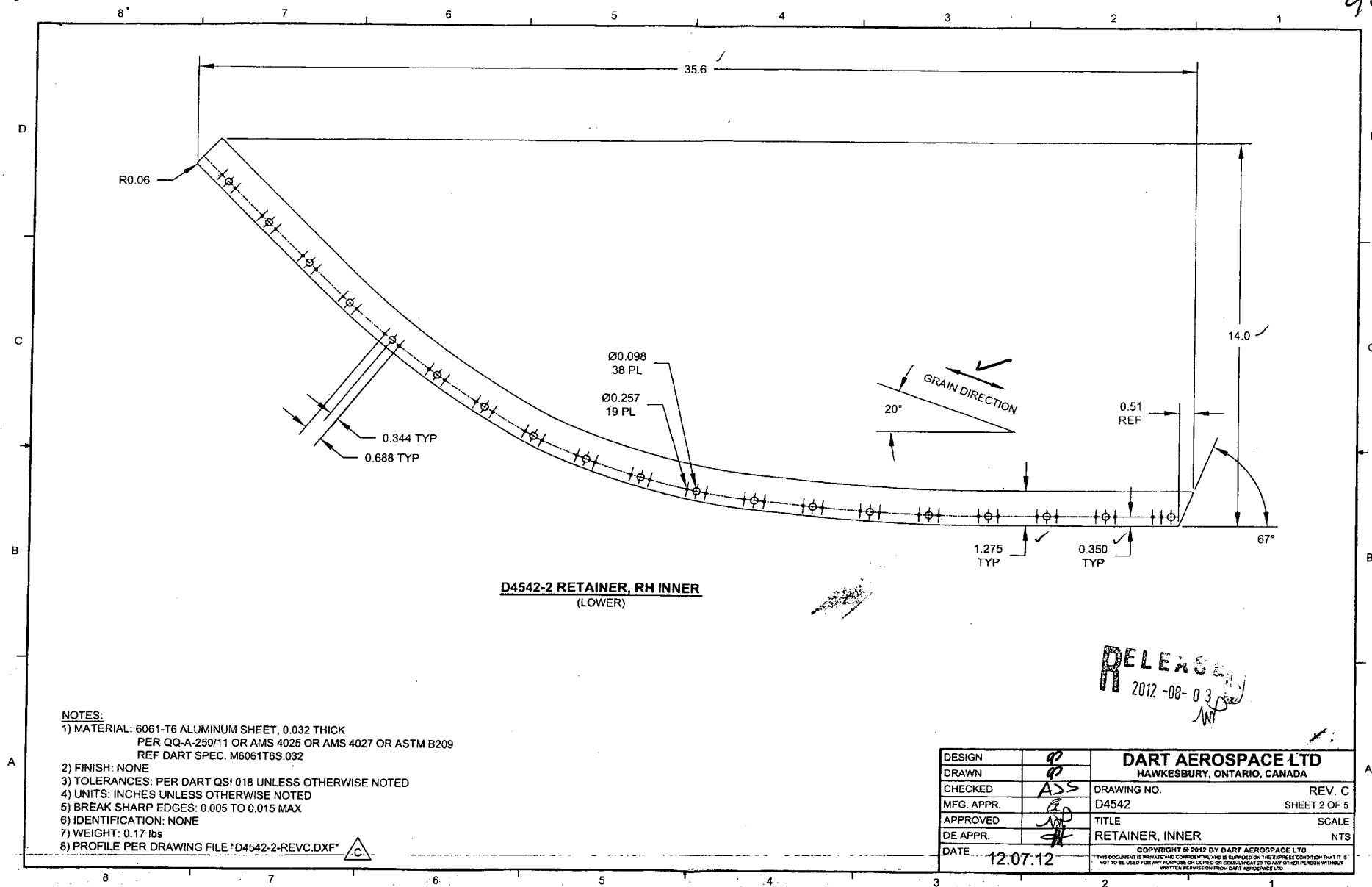
C	CORRECT (MIRROR) HOLE LOC. ON -7 (ZN C3-5)	CP	12.07.12
B	RMV FINISH & ADD HOLES (-1/-2/-3/-5/-7)	CP	12.04.20
A	NEW ISSUE	CP	12.01.09
REV.	DESCRIPTION	BY	DATE
DESIGN	qp		
DRAWN	qp		
CHECKED	ALS		
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	12.07.12		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

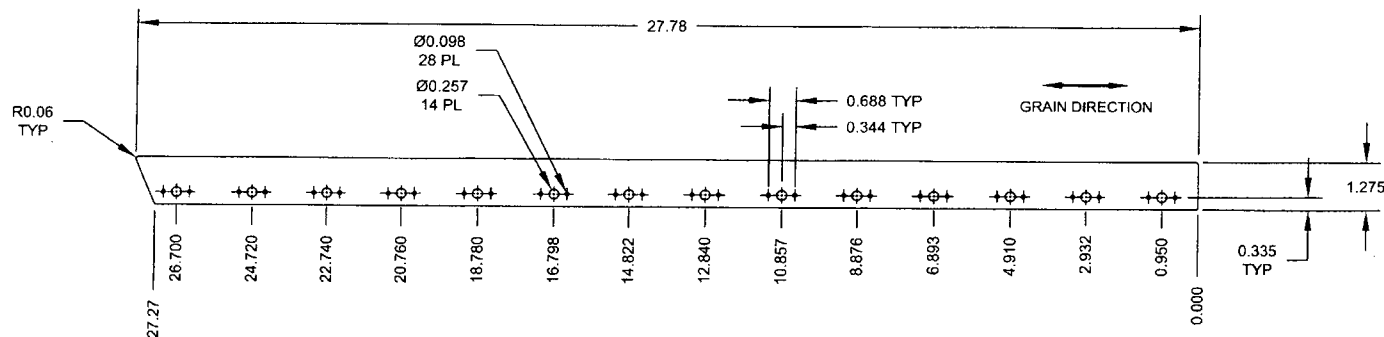
DRAWING NO. D4542
TITLE RETAINER, INNER
REV. C
SHEET 1 OF 5
SCALE NTS

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90449



90449







D4542-3 RETAINER, INNER
(SIDE)

RELEASED
2012-08-03
NP

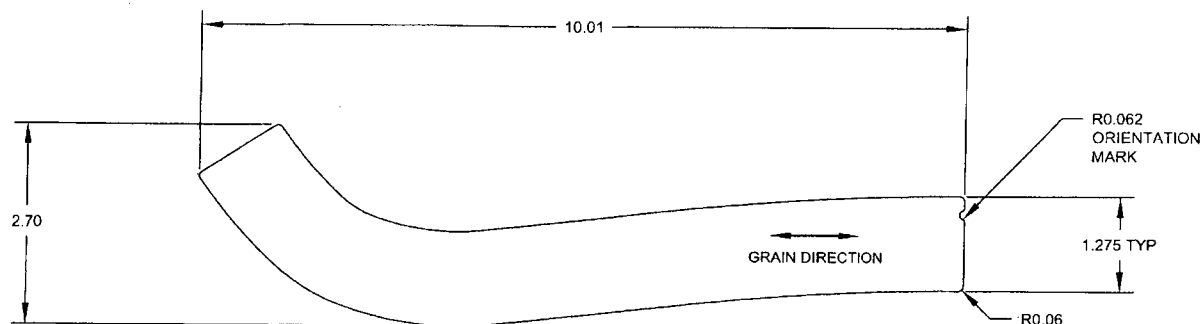
NOTES:

- 1) MATERIAL: 6061-T6 ALUMINUM SHEET, 0.032 THICK
PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209
REF DART SPEC. M6061T6S.032
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.11 lbs
- 8) PROFILE PER DRAWING FILE "D4542-3-REVC.DXF"



DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	ASS	DRAWING NO.	REV. C
MFG. APPR.		D4542	SHEET 3 OF 5
APPROVED	AM	TITLE	SCALE
DE APPR.		RETAINER, INNER	NT
DATE	12.07.12	COPYRIGHT © 2012 BY DART AEROSPACE LTD	
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D4542-5 RETAINER, INNER
(TOP CORNER)

RELEASED
2012-08-03

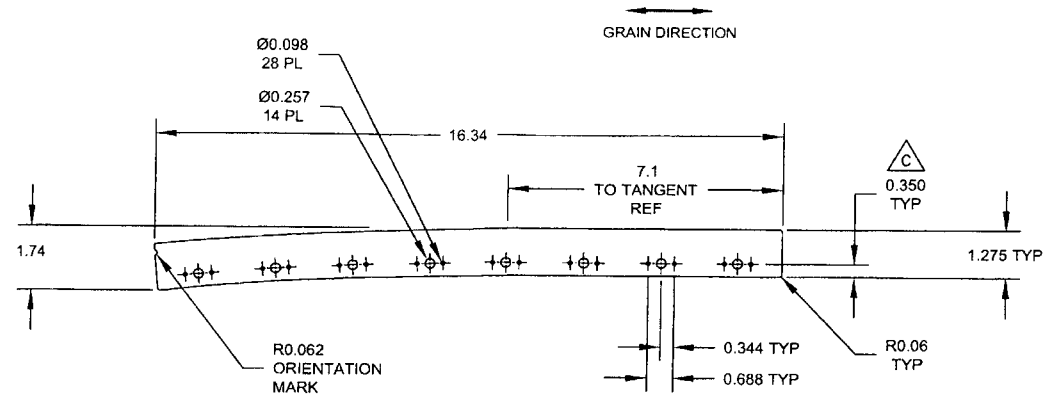
NOTES:

- 1) MATERIAL: 6061-T6 ALUMINUM SHEET, 0.032 THICK
PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209
REF DART SPEC. M6061T6S.032
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.04 lbs
- 8) PROFILE PER DRAWING FILE "D4542-5-REVC.DXF"



DESIGN	<i>g</i>	DART AEROSPACE LTD	
DRAWN	<i>P</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>ASS</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>E</i>	D4542	SHEET 4 OF 5
APPROVED	<i>JW</i>	TITLE	SCALE
DE APPR.	<i>JW</i>	RETAINER, INNER	NTS
DATE	12.07.12	COPYRIGHT © 2012 BY DART AEROSPACE LTD.	
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90449





D4542-7 RETAINER, INNER
(TOP)

RELEASED
2012-08-03

NOTES:

- 1) MATERIAL: 6061-T6 ALUMINUM SHEET, 0.032 THICK
PER QQ-A-250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209
REF DART SPEC. M6061T6S.032
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.015 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.07 lbs
- 8) PROFILE PER DRAWING FILE "D4542-7-REVC.DXF"

DESIGN	90	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED	AS	DRAWING NO.	REV. C
MFG. APPR.		D4542	SHEET 5 OF 5
APPROVED		TITLE	SCALE
DE APPR.		RETAINER, INNER	NTS
DATE	12.07.12	COPYRIGHT © 2012 BY DART AEROSPACE LTD	
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